

PATENT SPECIFICATION

DRAWINGS ATTACHED

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869.308



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International Classification:—F06p. E04f. F06c.

COMPLETE SPECIFICATION

Improved casing closures for textile Machinery

We, TWEEDALES & SMALLEY LIMITED, a British Company, of Castleton, Rochdale, Lancashire, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

The object of the invention is to provide an improved form of closure for the casings of textile machines, e.g. such machines as openers, hopper feeders and the like, which have heretofore been provided with doors mounted on hinges to open outwardly, an arrangement which is costly and entails a certain encroachment on the space alongside the machines. Furthermore, the fixed door-posts between the hinged doors prevent complete accessibility to the spacing within the casing, even when the doors are open.

According to the invention, it is proposed that the casing of a textile machine shall be provided with a single hinged door, located at any convenient position in the length of the casing side, whilst the rest of the casing side, (so far as it is required that the same shall be capable of being opened), is provided with one or more sliding doors arranged on a single track, the space for opening such sliding doors being made available by the previous opening of the hinged door, and the arrangement being such that the closure of the hinged door serves to lock the sliding doors in their closed position.

An embodiment of the invention, as applied to a conventional textile blow-room machine such as an opener, is hereinafter described with reference to the accompanying drawings, in which Fig. 1 is a longitudinal elevation of part of the machine casing, and Figs. 2 and 3 are sections taken respectively on the line II—II and III—III of Fig. 1.

The casing illustrated incorporates a skeletal structure, rectangular as viewed in side elevation, end elevation and plan, which is

clothed in metal sheeting. One or both of the sides is or are closed by doors. At the right-hand end there is a door A mounted upon hinges B attached to the upright frame member C so as to swing outwardly when opened. Said door A is divided vertically into two panels connected by hinges D, in order that they may be folded together to reduce the space occupied by the open door.

The doors E,E are of identical construction and are arranged to slide endwise, the door E which is nearest the door A moving into the space occupied by the latter when closed. The manner in which each of said doors E is supported is as follows:—

Near to the top of the door aperture a horizontal track-bar F (Fig. 2) is mounted at intervals upon members G which are carried by brackets H fixed to the frame at J. Said track-bar F which is provided on its upper side with a vee-section or other longitudinal groove FA, constitutes a track for rollers K which are mounted in a corresponding position on the inner face of the door E, so that the latter is supported so that it depends vertically across the door aperture. The rollers K are preferably provided with ball-bearing mounting studs KA on brackets L attached to the door.

Near to the bottom of the door aperture is a second longitudinal track-bar M (Fig. 3), which likewise extends throughout the length of the door aperture, and which is carried upon spaced members N supported by brackets P. Said second track-bar M serves as a bearing for ball-bearing rollers Q mounted for rotation about vertical axes upon brackets R upon the inner face of the door near to its bottom edge. An extension of the bracket R is curved at RA so as partially to encircle the bar M and thereby prevent outward displacement of the door.

When the hinged door A is open, in addition to having freedom to slide, the remain-

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ing doors E can be readily lifted off the bars F and M to provide unobstructed access to a large part of the interior.

- 5 It will be understood that when the hinged door A has been opened, the space formerly occupied by it is available to permit sliding movement of the sliding doors E, so that full access to any part of the interior of the casing can be gained. The upright meeting edges of each door A and E may be capable of being engaged with the adjacent doors by means of dowel-pins or the like (not shown), and the arrangement is such that when the sliding doors E occupy their closed positions and the hinged door is closed A, the sliding doors E are locked against movement.

20 The hinged door A may be furnished with a locking handle which is connected to the circuit of the electric driving motor of the machine, so that when the door is open the machine cannot be operated. Alternatively, a switch S in said circuit may be arranged for operation by the door A itself.

25 Any one or more of the doors E may be provided with inspection windows T.

WHAT WE CLAIM IS:—

- 30 1. A casing for a textile machine, having in its side a single door hingedly mounted for opening, and one or more doors arranged on a common track and capable only of sliding movement thereon longitudinally of the machine, the space for such sliding doors being made available by the previous opening of said hinged door, and the arrangement being such that the closure of the hinged door serves to lock the sliding doors in their closed positions.

2. A casing as claimed in Claim 1, wherein each sliding door is supported by rollers mounted on its inner face being arranged to run upon a horizontal track-bar fixedly located near the top of the door aperture and extending lengthwise thereof.

3. A casing as claimed in Claim 2, wherein each sliding door is additionally provided with rollers mounted on its inner face and arranged to bear against the side of a horizontal track-bar fixedly located near the bottom of the door aperture and extending lengthwise thereof.

4. A casing as claimed in Claim 2 or Claim 3, wherein the horizontal track-bar therein referred to extends throughout the length of the door aperture including that part thereof which is occupied by the hinged door when closed.

5. A casing as claimed in Claim 3, wherein each sliding door is provided with means engaging the lower track-bar to prevent outward displacement of the door relatively thereto except after it has been raised from both track-bars.

6. A casing as claimed in any one of the preceding claims, wherein the meeting edges of the doors are capable of inter-engagement by dowel-pins or the like.

7. The improved casing for a textile machine, constructed and arranged substantially as herein described with reference to the accompanying drawings.

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PROVISIONAL SPECIFICATION

Improved casing closures for textile Machinery

We, TWEEDALES & SMALLEY LIMITED, a British Company, of Castleton, Rochdale, Lancashire, do hereby declare this invention to be described by the following statement:—

- 75 The object of the invention is to provide an improved form of closure for the casings of textile machines, e.g. such machines as openers, hopper feeders and the like, which have heretofore been provided with doors mounted on hinges to open outwardly, an arrangement which is costly and entails a certain encroachment on the space alongside the machines. Furthermore, the fixed door-posts between the hinged doors prevent complete accessibility to the space within the casing, even when the doors are open.

80 According to the invention, it is proposed that the casing of a textile machine shall be provided with a single hinged door, located at any convenient position in the length of the casing side, whilst the rest of the casing side, (so far as it is required that the same shall be capable of being opened), is provided with

one or more sliding doors arranged on a single track, the space for opening such sliding doors being made available by the previous opening of the hinged door, and the arrangement being such that the closure of the hinged door serves to lock the sliding doors in their closed position.

100 In an embodiment of the invention, as applied to a conventional blow-room machine, the single hinged door is conveniently located at one end of the casing, the hinges being mounted upon the upright frame-member at that position. The full length of that part of the casing which it is desired should be capable of being opened is provided with a single horizontal track-bar fixed near to the top of the door aperture. Said bar, which is conveniently provided on its upper side with a vee-section or other longitudinal groove, constitutes a track for rollers which are mounted in a corresponding position on the inner faces of each of a plurality of sliding doors, the latter being thereby supported so

that they depend vertically across the door aperture. The rollers are preferably provided with ball-bearing mountings on brackets attached to the doors.

5 Near to the bottom of the door aperture is a second longitudinal track-bar, which likewise extends throughout the length of the door aperture. Said second track-bar serves as a bearing for ball-bearing rollers mounted for rotation about vertical axes upon brackets upon the inner faces of the doors near to their bottom edges.

10 Each sliding door is preferably provided with an angle bracket extending over the second track-bar and downwardly behind the inner side thereof, to prevent the bottom parts of the doors from being displaced outwardly when in the closed position. When the hinged door is open, in addition to having freedom to slide, the remaining doors can be readily lifted off the casing to provide unobstructed access to a large part of the interior.

20 It will be understood that when the hinged

door has been opened, the space formerly occupied by it is available to permit sliding movement of the sliding doors, so that full access to any part of the interior of the casing can be gained. The upright edges of each sliding door are capable of being engaged with the adjacent doors by means of dowelpins or the like, and the arrangement is such that when the sliding doors occupy their closed positions and the hinged door is closed, the sliding doors are locked against movement.

The hinged door may be furnished with a locking handle which is connected to the circuit of the electric driving motor of the machine, so that when the door is open the machine cannot be operated. Alternatively, a switch in said circuit may be arranged for operation by the door itself.

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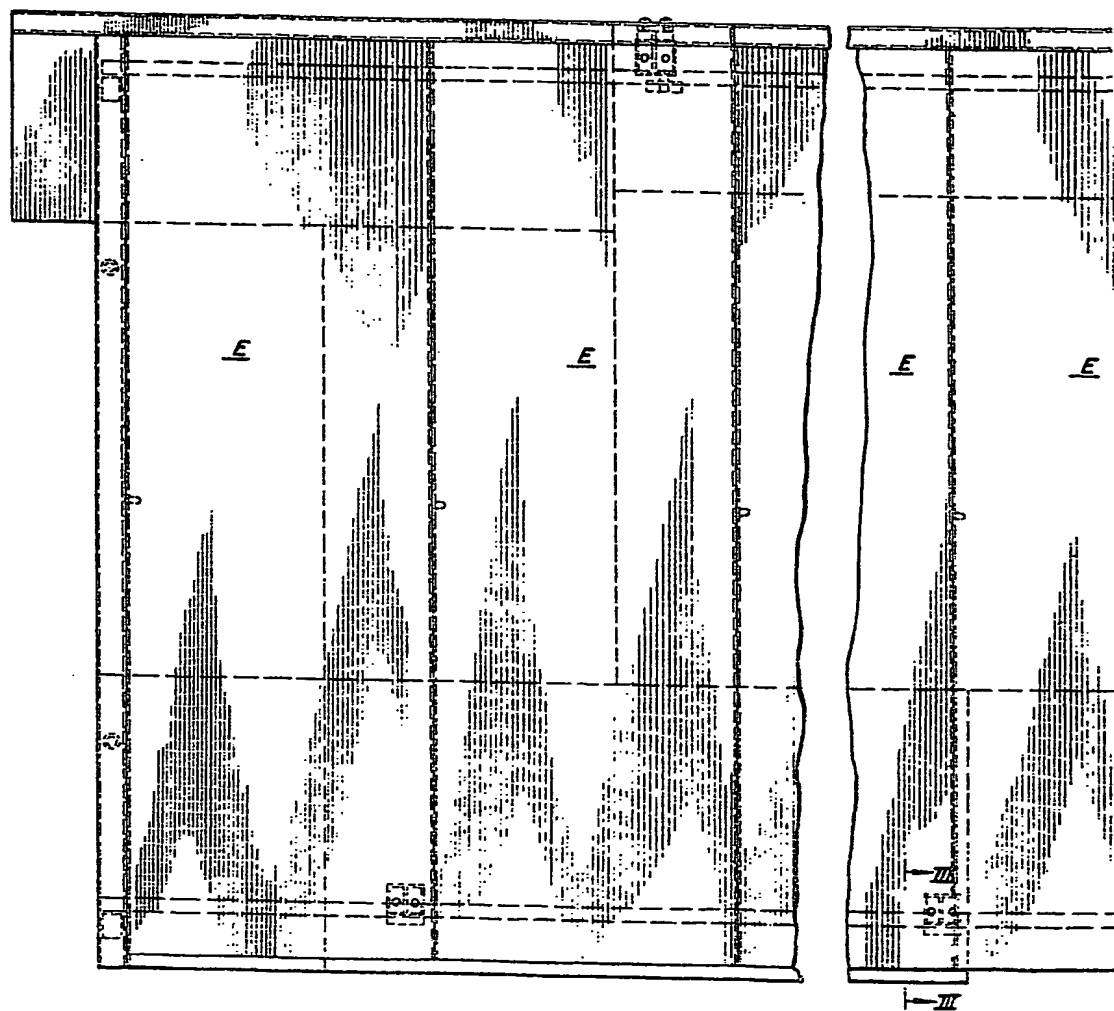


FIG. 1.

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2 SHEETS

SHEET i



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1 LEAFS

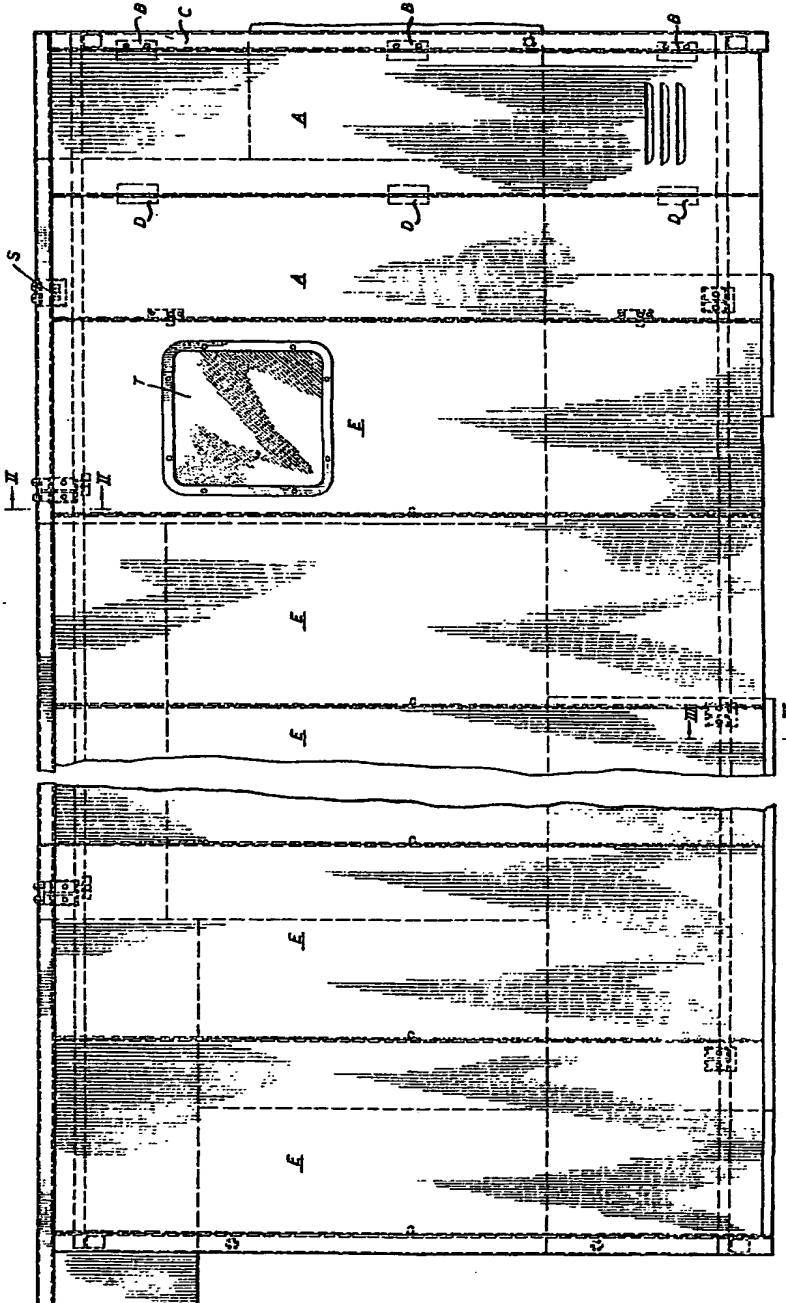


FIG. 1.

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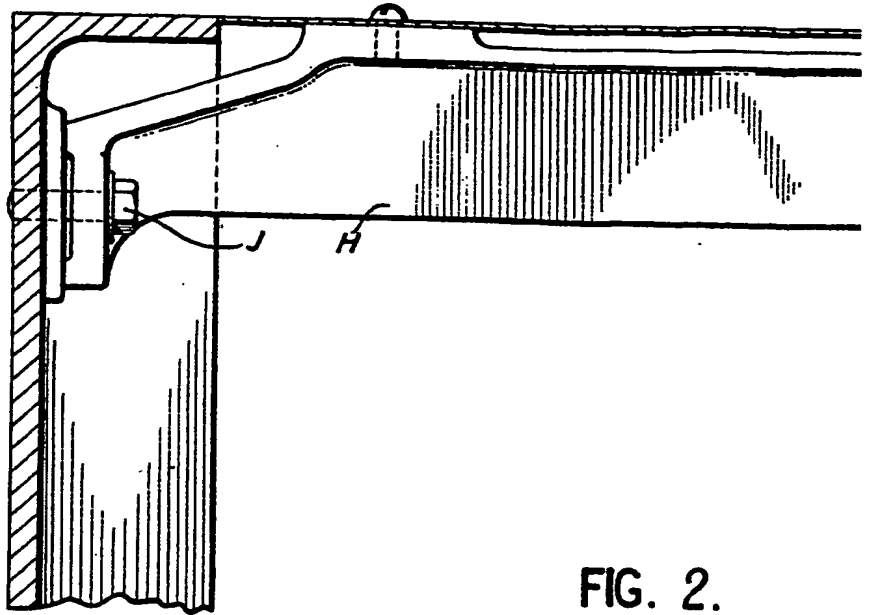


FIG. 2.

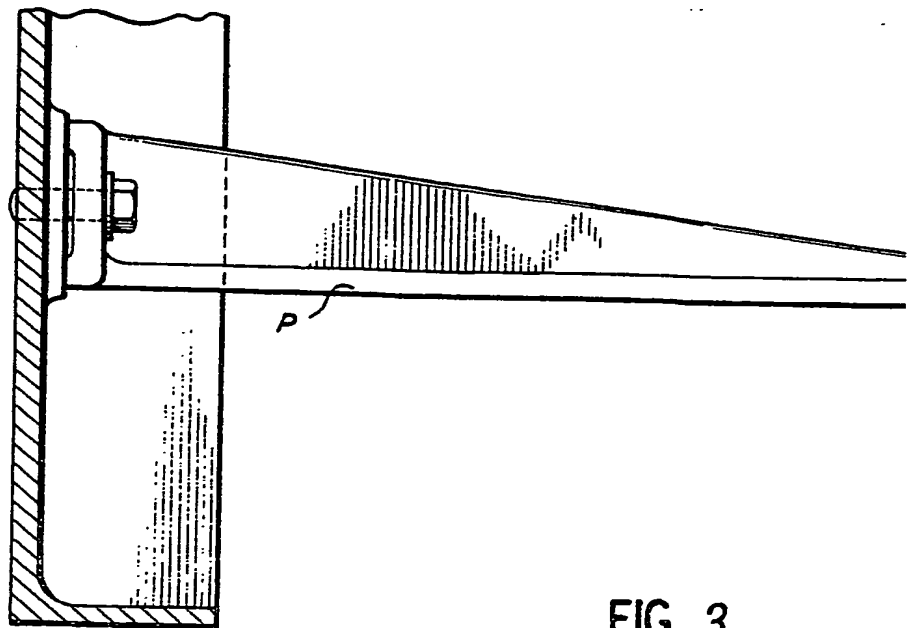


FIG. 3.

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COMPLETE SPECIFICATION

2 SHEETS

This drawing is a reproduction of
the Original on a reduced scale.

SHEET 2

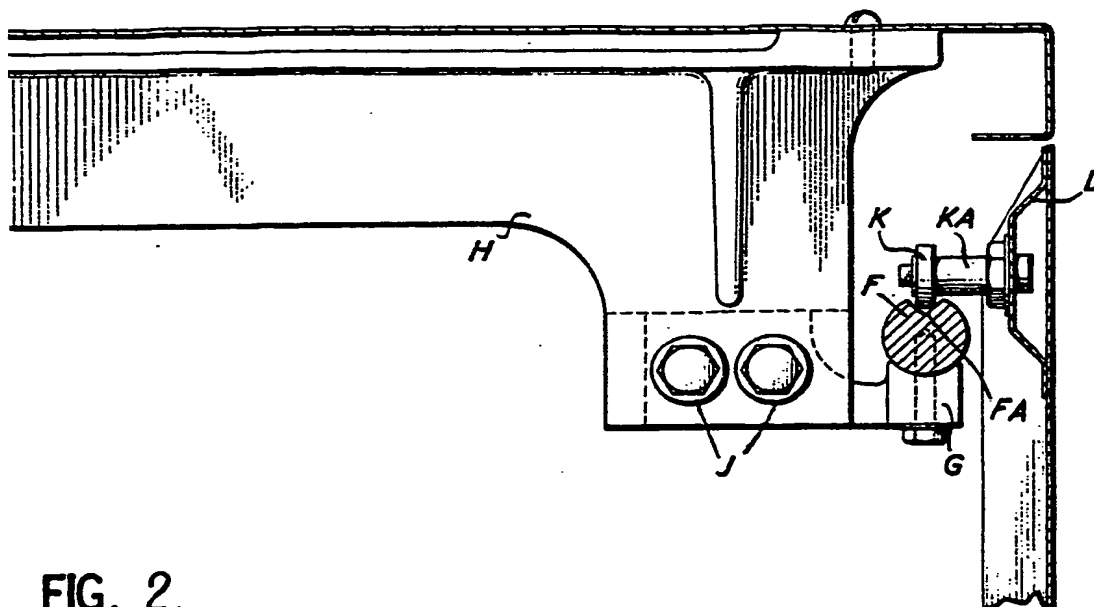


FIG. 2.

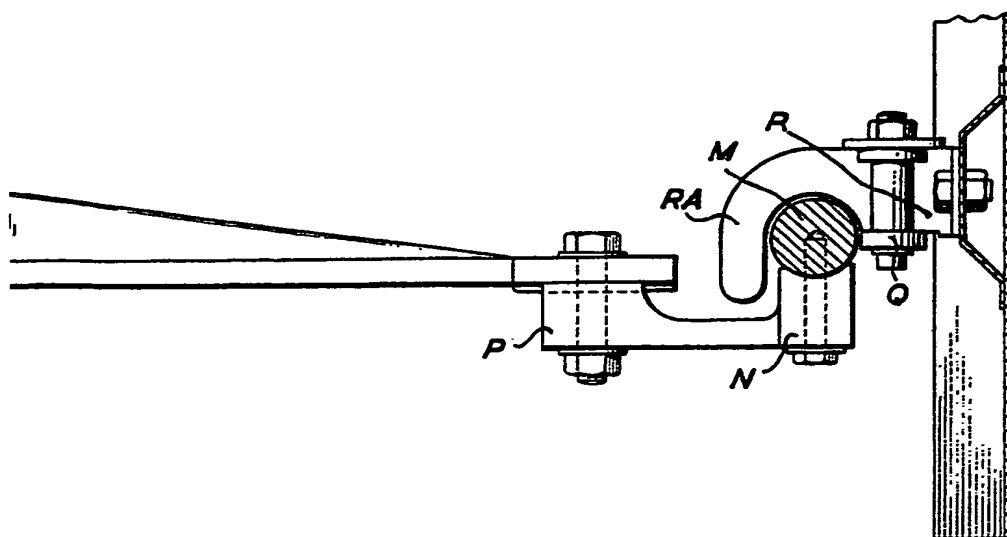


FIG. 3.

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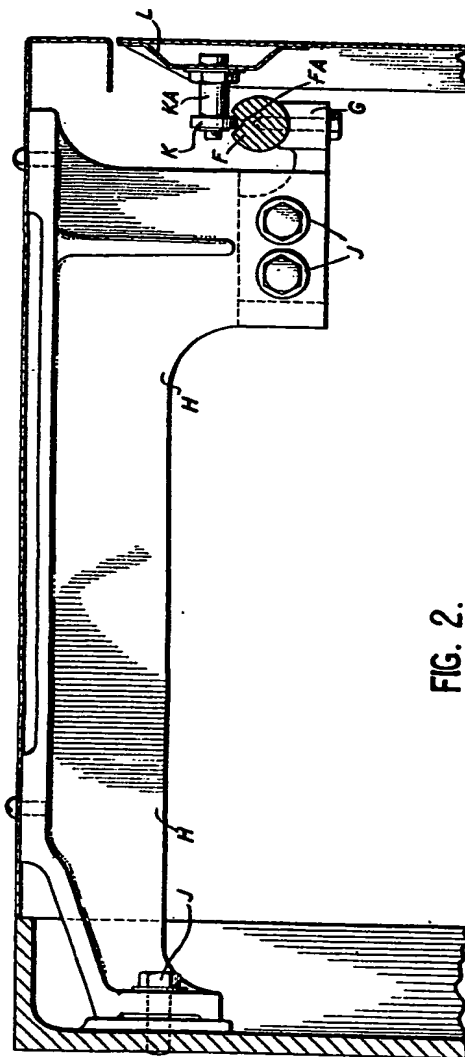


FIG. 2.

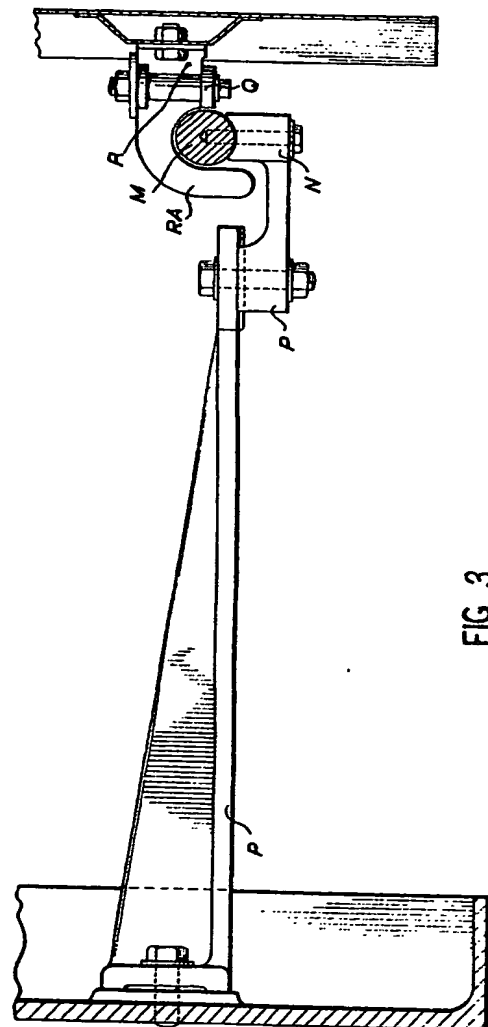


FIG. 3.